DOCUMENT RESUME

ED 292 198 EA 019 911

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TITLE Madeline Hunter's Teaching Machine.
PUB DATE 86
NOTE 15p.; Summary of paper first published by the Pennsylvania State Education Association in April 1986 issue of "Voice."
PUB TYPE Reports - Descriptive (141) -- Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Acceleration (Education); *Consultants; *Learning Theories; *Lesson Plans; Models; *Teacher Supervision
IDENTIFIERS Dewey (John); *Hunter (Madeline); *Pennsylvania

ABSTRACT

After introducing Madeline Hunter's lesson planning and teacher supervision model, this paper examines the scientific claims made for the model and provides a philosophical critique based on John Dewey's observations about teaching and learning. Although Hunter claims her model is research-based, the paper finds little evidence to support this assertion. Hunter's "scientific" learning theory, which moves swiftly to teaching prescriptions and claims for increased student achievement, is suspect for being based partly on research with animals lacking both a culture and the capacity for higher cognitive processes. Dewey held that psychological learning theory is not really scientific until tested and proven in educational practice. The links that Hunter infers between learning theory and teaching have not been substantiated. When viewed through the lens of Dewey's theory of learning and teaching, the Hunter model seems to be mechanistic rather than intellectual, to value teaching over learning, to view teachers as technical decision-makers rather than intelligent practitioners of a complex art, to be accepting of the educational status quo, and to offer an incomplete account of learning and teaching dynamics. One appeal of the Hunter model is its supposed simplicity and suitability for school organizations modeled after factories. The paper deplores the Hunter model's proliferation in Pennsylvania and suggests that ideas should always precede practice. Included are 13 references. (MLH)

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MADELINE HUNTER'S TEACHING MACHINE

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MADELINE HUNTER'S TEACHING MACHINE

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The news from California is good. Science has unlocked the complex cause and effect relationship between teaching and learning. Dr. Madeline Hunter, architect of the teaching machine based on these scientific findings, is about to speak.

Hunter looks impressive in her white laboratory coat as she addresses thousands of admiring school administrators in the stadium. One can single out the few teachers present by their apprehensive demeanor.

Hunter begins her address. "Teaching (is) one of the last professions to emerge from... witch doctoring to become a profession based on a science of human learning, a science that becomes the launching pad for the art of teaching. Only recently...has long-established research in learning been translated into cause-effect relationships of use to teachers. Only recently have teachers acquired the skills of...using these relationships to accelerate learning" (Hunter, p. 169, 1984).

"(My) model is equally effective in elementary, secondary, and university teaching. (I)t applies to every human interaction that is conducted for the purpose of learning. (F)aculty meetings...Rotary Club meetings...school board meetings...are all improved by (the) application of the principles of human learning" (Hunter, p. 39, 1985).

Hunter describes the elements of lesson planning based on the principles of learning. The seven elements she says "...[are] helpful in interpreting the effectiveness...of direct

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Author's Note: I want to thank Morton Botel, David Hogan, Marilyn Cochran-Smith and James Larkin of the University of Pennsylvania, John I. Goodlad, University of Washington, Elliot Eisner, Stanford University, and Kenneth Kastle, Centennial School District, for their helpful comments on earlier versions of this manuscript. The responsibility for the views expressed is mine.

teaching and in identifying what is needed should lessons be ineffective" (Hunter, 1984, p. 175). The audience stirred at this statement because seven of anything in something as complex as teaching reverberates with the sweet ring of practicality. Hunter, in response, throws out some cautions: Simple techniques of teaching have limitations; principles of learning are not absolutes; real-life teaching has a way of blurring the neat distinctions of laboratory theory (Hunter, p.60, 1985).

I repeat the seven elements here from notes taken that day.

Anticipatory set: Something the teacher does to get the student focused on the lesson to be taught; Objective and purpose: students know what they are to be learning and why; teach to specific objectives; Input: the objective is task-analyzed to identify the knowledge and skills to be learned; Modeling: "seeing" what the end product of learning will look like when the objective is achieved; Checking for understanding; Guided practice: students practice their new knowledge or skill *under direct teacher supervision*; *Independent practice*, given only after there are no serious errors in the new learning (Hunter, 1984, pp. 175, 176; see also Hunter, 1982; Hunter 1985 and Brandt, 1985).

Hunter states that the seven elements of lesson planning provide the base for her approach to teacher supervision. She explains the learning theory on which her model is based citing Pavlov in an example and recalls a finding of Wundt's that the beginning and end of any series are easiest to learn (Brandt, p. 61, 1985). "The knowledge has been around for years, but it was in terms of pigeons and rats, or in terms of the psychological laboratory...." (Brandt, p. 61, 1985). She reviews key topics in her learning theory such as positive and negative reinforcement, massed and distributed practice, closure to sum up student learning, and task analysis to break learning into a step-by-step procedure (Brandt, p. 62, 1985); (Hunter, p. 102, 1982); (Hunter, undated, p.4); (mimeographed training materials).

Hunter ends her talk 20 minutes later. The ambiguities of teaching melt away. The invocation of science and the clarity of the speech carry the day. The administrators rush to Hunter's fragile podium on the 30-yard line in a euphoric mood. There is a frenzy of video-

tape buying and signing up of trainers. I thought it best to retreat to try to understand the strange things going on in the land.

There are strange things going on in the land. Consider only two. School districts that have never had more than a speech for their two inservice days each year are now allocating three to five days each year for inservice training and spending $200,000[a] or more to train teachers and administrators in the Hunter teaching and supervision model. Whole states, such as Pennsylvania, South Carolina, and Arkansas have been heavily exposed to the Hunter approach. I understand that it is highly visible in Michigan and Illinois and other states as well. Consider, too, the substantive ideas that administrators "jump over" in their response to some primordial appeal of the Hunter model. Administrators ignore the fundamental ideas in Dewey's (1916) comprehensive theory of learning and teaching, for example, in their uncritical embrace of the Hunter model. Administrators ignore, too, fundamental criticisms of learning and teaching made by contemporary writers such as Goodland, Sizer and Eisner. In accepting Hunter, might we not be buying simplicity and a false clarity about teaching that displaces a more fundamental concern about learning? Might we not be buying a subjectively-based model of teaching in the guise of science?

I turn now to an examination of the scientific claims made for the Hunter model followed by a philosophical critique of the model itself.

Hunter claims that her model will improve learning because it is based on research and that she has unraveled the connections between learning theory and the teacher behaviors that result in better learning.

1. Hunter has not produced the research evidence to support her claim for improved learning. I do not find the evidence in publications where it might reasonably be expected to appear. In her chapter titled "Knowing, Teaching, and Supervising" in the ASCD publication Using What We Know About Teaching (Hunter, 1984) no supporting research citations are given (there is no bibliography for this chapter). I find no research to support her claims for

[a]Documented on page 11.

improved learning in her book Mastery Teaching (1982). No research evidence is given to support her claims for higher achievement in her book Teach More--Faster (1969).

One would think that in the 15 years since Teach More--Faster was published that Hunter or others would have produced a series of studies across the twelve grade levels in a representative sample of subjects that would cast some light on her claim. Without a pattern of such studies on important cognitive and affective learning outcomes (not merely some limited time-task relationship), it is difficult to see the science in her model.

Others have not found a pattern of research evidence to support the learning claims made for the Hunter model. McGreal[*] reports that he and Rosenshine were unable to find any empirical research in referred journals that addressed the effectiveness of the model.

2. The lack of any pattern of research to support Hunter's claim for improved learning also confounds Hunter's starting point--"scientific" learning theory. Hunter's model starts with learning theory, moves to prescriptions for teaching and, finally, to claims for increased student achievement. Ignoring the fact that her learning theory is based in part on research with lower animals that lack both the capacity for higher cognitive functions and a culture, her view is inconsistent with at least one major theorist who embraced a generalized method of science.

Dewey (1929) held that a finding might be scientific in psychology or in sociology, for example, but that it is not scientific in education until it has been tested in educational practice. Until it is tested in the educational environment, psychological learning theory is only intermediary and auxiliary. Hunter conceptually equates psychology and education. Without a pattern of evidence that her psychologically-based learning theory increases learning in school settings, it reasonably can be argued that the validity of her espoused learning theory is educationally suspect however well it may be accepted by those in other fields.

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[*]Telephone conversation with Thomas L. McGreal, University of Illinois, Champaign, February 21, 1986.

3. Without a solid pattern of evidence to support the claim for improved learning, there is no scientific basis for the Hunter model. The links she infers [I cannot use the term "cause and effect"] between learning theory and rules for teaching have not been demonstrated. Even the base for the model, learning theory, can be questioned if the criterion for testing in educational settings is applied.

I used scientific criteria to critique the Hunter model only because she herself invoked them. But merely to apply scientific criteria to this or to any other model of teaching and learning (or supervision) misses important substantive educational questions. Science tells us, at best, what is, not what ought to be. If one applies some "ought to be's" to the Hunter model from the value perspective of a more intellectual and holistic theory, substantive questions can be raised about the model whether or not it is proved to be effective or ineffective in practice. The ideas and values that surface in this kind of conceptual analysis are many of the ones that potential adopters of any teaching approach might consider if certain educational goals are to find their way to practice.

I will draw on the ideas and values on learning and teaching enunciated by Dewey (1916) in my analysis.

I reviewed the training materials in three Pennsylvania school districts in which three different trainers were used. The content taught was congruent with Hunter's published statements cited earlier. Informal talks with teachers, who taught a range of subjects in the fine and practical arts and in the academic subjects, and with administrators, indicated that the teaching process used was lecture-demonstration with little or no discussion. Probing or critical questions about the model were not encouraged.

The comparison of the Hunter approach with that of Dewey revealed two major deficiencies. These deficiencies are given below. Support for this judgment is given in the four secondary conclusions that follow.

<u>Critique of the Hunter Model from a Deweyan Perspective</u>

There are two major deficiencies in the Hunter approach to improve teaching that in and of themselves raise serious questions about its substantive educational value.

1. The content and learning process of the program are a-intellectual and discourage reflective thinking about teaching; it follows, then, that teachers who model their teaching on the content and process of the program will be unlikely to create for their students an environment that cultivates thought.
2. The program will not improve the quality of education because it incorporates a-intellectual and mechanistic values into its content and process.

My judgment that the Hunter program is severely deficient is supported by the interrelated secondary conclusions that follow.

1. The primary purpose of instruction is to develop thought (Dewey, 1916, p. 152). The content of the model is silent on thinking; the process of the training sessions discourages thinking. The seven elements of teaching are presented by "trainers" through a didactic, piece-meal process.

The training sessions for teachers require no sustained reading; no sustained discussion, probing or debate. Hunter's training sessions offer, instead, methodically-covered prepackaged prescriptions for teaching rather than informed and mature professional dialogue.

Hunter is eloquent on the proper use of the chalkboard, and virtually silent on the use of the mind. She speaks directly to lesson "closure," rarely to open inquiry (Hunter, 1982, pp.39-42; mimeographed training materials).

The Hunter learning process for teachers is a-intellectual on its face and reveals an implicit belief that teachers are merely technicians. It is true that a Hunter training session is a good model for overly-controlled teaching. These sessions model a poor form of didactic teaching and encourage docile acceptance by teachers of Hunter's teaching prescriptions. We

too often forget that we teach a great deal indirectly through the way we teach and the learning processes we encourage or discourage.

Hunter undervalues the insight and intelligence of teachers. Contrast her idea of teachers with this idea: "...the method of teaching is the method of an art, of action intelligently directed by ends." Or contrast Hunter's view with the assertion that methods are good or bad, in part, depending on whether or not they make a teacher's reaction more *intelligent* and encourage teachers to *excercise their own judgment* [italics added] (Dewey, 1916, pp. 170, 172).

Would one value intelligence and develop a model whose learning process for teachers denies it entry?

2. Hunter focuses relentlessly on lesson planning and on the teacher. Her emphasis on the short instructional exposure of a single lesson is atomistic and causes her to ignore other important influences on educational quality such as the worth of the content taught, the limitations of most textbooks, the impact of testing programs, the cumulative effect and "flow" of a curriculum over weeks and months, labeling of students, and the influence of a school's climate on teaching and learning.

Hunter's educational reach is very short. She does not speak, for example, to the general lack of intellectual vitality, to the emotional flatness of learning, or to any other significant issue that Goodlad (1984) raises in his monumental study of 38 schools.

3. There is nothing in the pattern of the Hunter model to encourage sustained inquiry and effort <u>across lessons</u> in pursuit of a problem or an integrative theme; there is nothing about the power of small group work to motivate and to energize intelligence through reading, writing, or critical discussion about problematic issues; there is nothing about students defining problems to pursue; there is nothing to suggest that <u>meaning emerges</u> from wrestling with ambiguity, from trying things out, from mind/hand work in the studio, and from reading some real books once in a while.

There is, instead, much said about teaching and little about learning; much about specific objectives; about closure (which might just as well "close out" meaning which develops slowly over time in a non-linear process); about reinforcement; about sequence of material; about guided practice; and about learning in small steps through task analysis. The very terminology and the technological images they suggest point to the mechanistic bias that is built into the model (Hunter, 1984, pp. 169-192; mimeographed training materials).

"Task analysis" is a term more properly used in the manufacture of rockets. It speaks to the standardization of the factory. It speaks to nothing that is of fundamental importance to artful teaching.

Hunter's bias is implicit in the title of her programmed book Teach More--Faster (1969). Teach more of what? Over-concern with content coverage and speed, canons of the school-as-factory-mind-as-sponge model, are certain ways to drain the intellectual and esthetic qualities from any subject at any level.

If Dewey or Piaget were to address this topic, their title would be less marketable but more fundamental: "Teach Less--Better."

4. Hunter's method, taken as a whole, places a premium on inert facts and information removed from their purpose in thinking. Thinking requires knowledge and generates knowledge. Knowledge and thinking go together, but thinking is primary. To pile up information removed from thinking clutters the mind and inhibits thought.

The sole direct path to better method is to create the conditions that exact and promote thinking. Thinking is the method of intelligent learning (Dewey, 1916, p. 153).

Some users of the Hunter model sense its mechanical and a-intellectual qualities and try to compensate by adding to it or modifying it in some way. This may help a bit, but as long as the seven lesson elements constitute the embracing framework for teaching and supervision their functional effects are severely limiting.

The reason for this statement is that Hunter's focus on discrete lessons chops learning into pieces; her seven elements are mechanistic and therefore too weak to hold anything solid--such as sustained problem-solving or the development of a conceptual structure in a subject.

Trying to build intellectual rigor or emotional sensitivity into the Hunter structure is impossible--as impossible as trying to wrap cellophane around a plume of smoke.

The Hunter model shares the same a-intellectual and mechanistic bias that characterize other programs with similar philosophical views: behavioral objectives, programmed instruction, the now defunct Chicago mastery learning program in reading, curriculum mapping, process-product research on teacher effectiveness (Garrison and Macmillan, 1984; Fenstermacher, 1978); and "competency" based teacher education. All of these programs marched forth under the banner of efficiency or science or both. Whose "efficiency"? Whose "science"?

The Hunter-type approach to teaching and learning is doomed to fail as a practical effort to improve learning because it takes a-intellectualism and mechanism, the two worst characteristics of American education, and makes them worse--the very characteristics that a more conceptually informed improvement effort would try to modify.

Conclusion

Neither Hunter nor others have shown a pattern of evidence to warrant her claims that the model is scientific. Evidence of its effectiveness to improve learning in desirable directions is lacking.

When the model is viewed through the lens of Dewey's theory of learning and teaching, the Hunter model appears to be mechanistic rather than intellectual, to value teaching over learning, to view teachers as technical decision-makers rather than as intelligent practitioners of a complex art, to be accepting of the educational status quo, and to offer a destructively incomplete rather than a more comprehensive account of the dynamics of learning and teaching.

What is the Source of the Appeal of the Hunter Model? At What Cost?

One appeal of the Hunter model is its simplicity in content and process. It is a package in the same way that a textbook is a curriculum package. The Hunter program not only tells administrators how to shape-up their teachers in three days of direct instruction but how to keep them shaped-up through its accompanying supervision model. And it espouses nothing that is fundamental to learning or challenges nothing that is deficient in the present school system.

Another appeal of the model is that it says that the teachers [read workers] in the school system [factory] know little and must be told by those who do know [foreman] how to process the students [iron ore] so that they will meet pre-set, "objective" specifications. The subtle message, happily not shared by all administrators, is that nothing is wrong with the system that fixing the teachers can't fix. And who will know the difference? The Board? No. The teachers? Maybe. They sense that something is wrong but they cannot articulate a counter argument because they are chock-full of technique and technique cannot generate an argument against itself. The scholarly community? They have been very quiet.

The spread of the Hunter model in Pennsylvania is phenomenal. Last year the Governor of Pennsylvania asked the department of education to set-up programs in clinical supervision through the state's 29 regional intermediate units. Most of the 27 regional units that participated offered training in the Hunter model although the state did not require any one model to be taught according to a department spokesperson.[8]

I sampled 10 intermediate units by telephone. I found only one that did not offer the Hunter model. When the regional units opened their doors, the Hunter model, always pressing, swept in. (The stage was sometimes shared by other models, but this does not appreciably reduce the thrust of my statement.)

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[8]Conversation with Frederica Haas, Pennsylvania Department of Education, February 1986.

The number of educators "reached" in this effort was large. Haas (1985) writes that 1780 administrators attended these sessions and that 74 percent of the state's 500 school districts participated. Further, Haas reports that 25 percent of Pennsylvania's certified administrators attended: principals attending, 1032 (28%); superintendents, assistant superintendents, 169 (20%); and supervisors, 320 (21%).

It is also worth noting that the Pennsylvania School Boards Association is orienting its members to various kinds of teacher supervision and evaluation models including Hunter's.

The penetration of the Hunter model in a state so large and as socially and economically diverse as Pennsylvania is cause for concern: The model is present in the wealthy Main Line school districts, in the coal regions, and in the rural areas. And Pennsylvania, I believe, is not unique.

The true cost of the Hunter model beyond the cost of the teachers' time and fees for the trainers (and "trainers" is the correct word) is substantial. The real cost is that this program gives the appearance of fundamental improvement. This reduces time and money for more serious efforts because many administrators and boards may understandably feel that after five years and $300,000* worth of Hunter-type programs, they have been "inserviced" for the millenium.

Let's sum up this way. First, we must acknowledge our sadness that the institution of the people has to nurture itself on the thin gruel of an a-intellectual recipe. We must then search for a rational explanation (to regain our perspective). This might be the explanation. I understand that there are some undiscussed books in the library that make a plausible case that the American public school system is modeled on a factory, that routine vanquishes novelty, that teachers are isolated in little boxes, that facts push out ideas, and that the system lacks intellectual rigor, esthetic sensitivity, and emotional vitality. I also understand that a

*Projected five-year cost for 209 teachers for five days of training in the Hunter program. Conversation with Denny Bolton, business manager, Owen J. Roberts School District, Bucktown, Pennsylvania. Mr. Bolton reports that this is the true cost for the program doing it "the way Hunter recommends."

model of teaching and supervision has appeared in the land that is congruent with these characteristics. Should it cause wonder that one embraces the other? Does not the proposition prove itself?

What might be done?

Fundamental reform must begin with idea not technique. Practice always follows idea. This means that principals and teachers must make explicit the implicit ideas and assumptions that energize practice. They must read, think, talk and test ideas in practice. This talk should address one fundamental question: What must we know and value and act on in this school to cultivate the intelligence and sensitivities of teachers, students, and administrators?

No short time lines. No product deliverables. No behavioral objectives. No rockets.

Please don't call me before next Wednesday. I need time to prepare my video cassettes and to get my 800 number.

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